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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,803	04/04/2001	Fumiya Terakado	010490	1042

23850 7590 06/10/2003

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EXAMINER

MUSSER, BARBARA J

ART UNIT	PAPER NUMBER
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1733

6

DATE MAILED: 06/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/824,803	<b>Applicant(s)</b> TERAKADO ET AL.	
	<b>Examiner</b> Barbara J. Musser	<b>Art Unit</b> 1733	

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 3(1)-5(1) are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al.(U.S Patent 5,885,490).

Kawaguchi et al. discloses a method of forming a continuous sheet having an optical function by extruding a thermoplastic resin between a patterned release sheet and a cooling roll with a patterned or mirror surface, and removing the release sheet after cooling.(Abstract) The release sheet can be a curable resin.(Col. 3, ll. 43-50) It does not disclose the release sheet having a change of less than 30% in the surface gloss after pressing with a hot plate heated to 160°C under a force of 20kg/cm<sup>3</sup> for three seconds and that the release sheet can be wound over a cylinder of less than 12 inches in diameter. However, the reference uses the same resins as the applicant. These resins would have the same characteristics as those used by applicant. Additionally, as the release sheet is intended to transfer the pattern while being pressed between two rolls and while simultaneously contacting a hot thermoplastic resin, one in the art would appreciate that the curable resin chosen would be capable of not losing definition(surface gloss) while heated to a temperature near that of the extruded resin and while pressed with a force approximating that caused by the rollers forming the nip.

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As the release sheet is originally wound on a pay-out roller(7), one in the art would appreciate that the thickness and composition of the sheet would be chosen such that the sheet did not fracture when wrapped around the roll. These pay-out rollers span a variety of sizes, and it would have been obvious to one skilled in the art to use a composition and thickness that would not fracture when used with a pay-out roll. Absent unexpected results for 12 inches in diameter or less, this limitation is considered obvious.

Regarding claim 3(1), the resin can be extruded between a release sheet and another layer which it is laminated to. The layer can be a light-transmitting sheet.(Col. 5, ll. 4-10)

Regarding claim 4(1), the release sheet can be formed by embossing the design using a metal embossing roll.(Col. 6, ll. 10-11)

Regarding claim 5(1), the resin can be curable.(Col. 3, ll. 46-50)

3. Claims 2, 3(2)-5(2), and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al. as applied to claim 1 above, and further in view of Gray, III et al.(U.S. Patent 4,322,450).

Kawaguchi et al. does not disclose the release sheet being a composite or the specifics of how the release sheet is formed other than via the use of an embossing roller. Gray, III et al. discloses a composite release sheet made by coating a curable resin on a substrate, pressing a design into it, and partially curing it prior to removal.(Col. 3, ll. 9-28) This process is better than other processes for forming an embossed pattern since it insures complete replication of the embossed pattern in the

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curable resin.(Col. 2, ll. 59-65) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a composite substrate formed in the method of Gray, III et al. since this would insure the complete replication of the pattern on the release layer.(Col. 2, ll. 59-65).

Regarding claim 3(2), the resin can be extruded between a release sheet and another layer which it is laminated to. The layer can be a light-transmitting sheet.(Col. 5, ll. 4-10)

Regarding claim 4(2), the release sheet can be formed by embossing the design using a metal embossing roll.(Col. 6, ll. 10-11)

Regarding claim 5(2), the resin can be curable.(Col. 3, ll. 46-50)

Regarding claim 6, while the reference is silent as to the ratio of thickness of the release coating to substrate, one in the art would appreciate that the coating would not be extremely thin in relation to the substrate as it would not hold a significant pattern nor extremely thick as that would waste resin. The ratios claimed are considered conventional. Absent unexpected results, the ratios claimed are considered obvious.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawaguchi et al. and Gray, III et al. as applied to claim 2 above, and further in view of Kanki et al.(U.S. Patent 6,040,356) as set forth in the previous office action.

#### ***Response to Amendment***

5. The declaration under 37 CFR 1.132 filed 3/28/03 is insufficient to overcome the rejection of claims 1 and 3(1)-5(1) based upon Kawaguchi et al., 2, 3(2)-5(2) and 6

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based on Kawaguchi et al. and Gray, III et al., and claim 7 based on Kawaguchi et al., Gray, III et al., and Kanki et al. as set forth in the last Office action because: the declaration is not commensurate in scope with the claims in that the declaration in that the declaration is directed to an optical sheet with a convex/concave prism while the claim only requires a three-dimensional structure.

Additionally, the results are not unexpected. The materials are not unexpected over the generally accepted properties in the art. Rather applicant is selecting the properties needed based on the equipment and temperatures to be used. As the release sheet is intended to transfer the pattern while being pressed between two rolls and while simultaneously contacting a hot thermoplastic resin, one in the art would appreciate that the curable resin chosen would be capable of not losing definition(surface gloss) while heated to a temperature near that of the extruded resin and while pressed with a force approximating that caused by the rollers forming the nip. As the release sheet is originally wound on a pay-out roller(7), one in the art would appreciate that the thickness and composition of the sheet would be chosen such that the sheet did not fracture when wrapped around the roll. These pay-out rollers span a variety of sizes, and it would have been obvious to one skilled in the art to use a composition and thickness that would not fracture when used with a pay-out roll. Expected beneficial results are evidence of obviousness.(MPEP 716.02(c))

### ***Response to Arguments***

6. Applicant's arguments filed 3/28/03 have been fully considered but they are not persuasive.

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Regarding applicant's argument that Kawaguchi et al. discloses a thermoplastic release sheet, the reference also includes a thermosetting release sheet. The fact that applicant has discovered a benefit to a known prior art process does not render it patentable.

7. In response to applicant's argument that Gray, III et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the reference is directed to forming release sheets for transferring patterns to other materials.

Regarding applicant's argument that the release sheet of Gray, III et al. cannot be used in the process of Kawaguchi et al., the specific release sheet is not used. Rather the concept is used to modify the release sheet of Kawaguchi et al.

Regarding applicant's argument that Gray, III et al. does not disclose using the composite release sheet, the reference indicates that release sheets have been used previously to transfer a pattern to a substrate. (Col. 1, ll. 19-65) The entire reference is directed to fixing the problems of the prior art release sheets. This clearly indicates the release sheet of Gray, III et al. is intended to be used as a release sheet which forms a pattern on another surface.

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Regarding applicant's argument that Kanki et al. does not disclose the substrate having a pattern, applicant does not disclose the substrate having a pattern. The substrate is the layer below the patterned layer.

8. In response to applicant's argument that Kanki et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the reference is directed to transferring something using a release sheet. While the references are transferring different items, they are both materials used as a release sheet. The reference is simply used to show that other types of material can be substituted for paper as a release sheet.

### **Conclusion**

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of




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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is (703)-305-1352. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
BJM  
June 2, 2003

ADRIENNE C. JOHNSTONE  
PRIMARY EXAMINER  
GROUP 1300

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